# **EXHIBIT D**

### MARCEL MOREAU

Marcel Moreau Associates 73 Bell Street Portland, ME 04103 (207) 774-9263

email: marcel.moreau@juno.com

### **QUALIFICATIONS SUMMARY**

Mr. Moreau has worked exclusively in the field of liquid storage systems since 1983. His experience includes four years with Maine Department of Environmental Protection, where he was instrumental in the development of Maine's underground storage system regulatory program, including the establishment of the first tank installer certification program in the country. He then worked for four years with an environmental engineering firm, where his duties included inspecting hundreds of existing storage systems for military and utility clients, and developing conceptual designs for new storage systems.

Presently, he is an independent consultant providing information and educational services related to liquid storage systems for government and private sector clients. He has given dozens of seminars and training presentations and is widely published and quoted in trade publications. He specializes in development and presentation of classroom and on-line training programs, technical writing, and development of certification programs for storage system installers and removers.

### AREAS OF EXPERTISE

- Facility Regulatory Compliance Assessment
- Tank and Piping Technology for Liquid Storage Systems
- Leak Detection Technology
- Storage System Installation
- Tank Installer Certification

### RELEVANT WORK EXPERIENCE

1991 - Present: Principal, Marcel Moreau Associates, Portland, Maine

1987-1990: Principal Scientist, ABB Environmental Services, Portland, Maine

1983-1986: Geologist, Maine Department of Environmental Protection

### **EDUCATION**

M.S./Oceanography, 1981, University of Maine B.A./Geology, 1972, Williams College

### PROFESSIONAL AFFILIATIONS

Maine Certified Oil Storage Tank Installer American Society of Petroleum Operations Engineers Petroleum Equipment Institute

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### PROJECT EXPERIENCE (Marcel Moreau Associates)

#### 2008

• Completed work as consultant to the Petroleum Equipment Institute in producing a new document entitled, "Recommended Practices for Operation and Maintenance of Underground Storage

Provided consulting services to the Petroleum Equipment Institute on a new recommended practice

concerning marina fueling facilities.

Provided consulting services to the Petroleum Equipment Institute in producing a new recommended practice concerning the design and installation of motor vehicle lubricant storage and distribution systems.

### 2007

Completed work as consultant to the Petroleum Equipment Institute on a new document entitled, "Recommended Practices for Overfill Prevention for Aboveground Storage Tanks."

• Provided consulting services to the Petroleum Equipment Institute in producing a new recommended practice concerning the design and installation of motor vehicle lubricant storage and distribution systems.

 Provided consulting services to the Petroleum Equipment Institute in producing three new recommended practices dealing with overfill prevention for aboveground tanks, inspection of underground storage systems, and installation of lubrication systems.

• Provided an on-line, interactive exam to re-certify cathodic protection testers for the Steel Tank

Institute.

• Provided representation before municipal boards for a large petroleum marketer seeking approval for constructing new two new facilities in two townships.

• Provided consulting services to create an online survey to determine state agency experience with

various groundwater contaminants.

Provided cathodic protection testing of an impressed current system installed on a commercial fuel oil storage system.

Continued development of internet-based education program for UST owners and operators.

• Provided consulting services to the Petroleum Equipment Institute in revising their document entitled "Recommended Practices for Installation of Underground Liquid Storage Systems."

Provided consulting services to the Petroleum Equipment Institute for their new publication entitled, Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment."

Provided cathodic protection testing of an airport hydrant fueling pipeline.

- Continued development of internet-based education program for UST owners and operators.
- Provided UST management services for large Maine gasoline marketer.
- Provided UST design consultation for large mid-Atlantic gasoline marketer.

### 2004:

• Investigation of a leak incident in New Hampshire.

Provided consulting services to the Petroleum Equipment Institute in revising their document "Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling Sites."

Provided instructions and support services for inventory control procedures for a marina

Provided consulting services to the Petroleum Equipment Institute for their new publication entitled, Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment."

Provided cathodic protection testing and storage system upgrading recommendations for a fuel oil storage system.

Began development of internet-based education program for UST owners and operators.

#### 2003:

Provided a study guide and certification exam for certifying UST inspectors for Maine's Board of Underground Storage Tank Installers.

• Provided consulting services to the Petroleum Equipment Institute in revising their document entitled "Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling Sites."

• Provided consulting services to the Petroleum Equipment Institute to produce the first edition of a recommended practice concerning the inspection, repair and maintenance of fuel dispensers.

#### 2002:

- Managed a project for the Maine DEP to inspect dispensers and submersible pumps at 100 facilities across Maine for leaks and report on findings.
- Provided consulting services to the Petroleum Equipment Institute in revising their document entitled "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling."
- Provided technical consultation for a project in California to assess the leak detection accuracy under field conditions of automatic tank gauges and line leak detectors.

#### 2001

- Provided UST inspector certification exams for removal, installation and operation & maintenance for Intertribal Council of Arizona.
- Provided testimony at a hearing with regard to the potential sources of releases of MTBE from an UST system in Morro Bay, California.
- Provided consulting services to the Petroleum Equipment Institute to produce the first edition of a recommended practice to test the electrical continuity of gasoline dispensing hoses.
- Provided UST inspector and installer certification exams to be used in certifying UST workers in Iowa.

### 2000:

- Provided consulting services to the Petroleum Equipment Institute in revising their document entitled "Recommended Practices for Installation of Underground Liquid Storage Systems."
- Managed a project for the Maine DEP to test cathodic protection systems at approximately 75 underground storage facilities in Maine.
- Managed a project to review the results of annual operation tests of approximately 300 underground storage facilities in Maine.
- Continued investigation of large leak incident for the Maine DEP.
- Tested an impressed current cathodic protection system on a tank at a commercial facility in Maine.
- Troubleshot galvanic cathodic protection systems at a private college in Maine.
- Attended regulatory hearing in Florida to discuss proposed rule changes.

#### 1999:

- Managed a project where approximately 40 UST facilities were inspected to determine whether they met the requirements of Maine's Environmental Leader program.
- Provided consulting services to the Petroleum Equipment Institute in revising their document entitled "Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling."
- Tested galvanic cathodic protection systems on two tanks at an appliance distribution facility in Maine.
- Tested an impressed current cathodic protection system on a tank at a public facility in Maine.
- Tested galvanic cathodic protection systems on four tanks at a retail fuel outlet in Maine.
- Tested an impressed current cathodic protection system on a tank at a commercial facility in Maine.
- Investigated internal corrosion in a #6 fuel oil tank for the Maine DEP.
- Investigated a large leak incident for the Maine DEP
- Provided commentary to EPA on UST system technology performance.
- Consulted with Vermont DEC concerning two UST leak incidents.

### 1998:

• Produced a study guide to help tank workers prepare for the Pennsylvania aboveground storage system certification exams.

- Updated the study guides for the West Virginia underground tank installer, remover, and tester certification exams.
- Updated the study guide for the Pennsylvania underground tank installer and remover certification exams.
- Evaluated and made recommendations with regard to eight galvanically protected storage tanks that are not meeting criteria for cathodic protection.
- Maine DEP, evaluated potential sources of an MTBE release at a newly constructed gas station.

### 1997:

- Regulatory compliance consultation for independent petroleum marketer in Massachusetts
- Bolling Air Force Base, compliance review and operator manual for fuel storage systems
- Managed project to conduct regulatory compliance inspections at 75 UST facilities for Maine Department of Environmental Protection
- Provided technical support for reorganization and revisions to Pennsylvania's UST certification examinations
- Provided consulting services to the Petroleum Equipment Institute in revising their document entitled "Recommended Practices for Installation of Underground Liquid Storage Systems"

### 1996:

- West Virginia DEP, developed a study guide and examination for tank tightness tester certification
- Regulatory compliance consultation for independent petroleum marketer in Hawaii
- Clark County Health Department, Las Vegas, NV, analysis of inventory records to determine regulatory compliance
- Conducted a regulatory review and market survey for a foreign manufacturer of leak detection equipment interested in entering the American market
- Provided technical support at regulatory hearing for Florida Department of Environmental Protection
- Provided technical support for reorganization and revisions to Pennsylvania's UST certification examinations

### 1995:

• USEPA, wrote survey report on flexible piping systems

#### 1994

- Pennsylvania DEP, wrote study guides and extensively revised certification examinations for UST installers, inspectors and removers
- West Virginia DEP, wrote study guides and certification examinations for UST installers and removers
- Independent Petroleum Marketer, reviewed UST management plan
- AIG insurance, reviewed UST compliance documents for two industrial facilities in West Germany

#### 1002

• USEPA, provided drafts of informational booklets on inventory control and manual tank gauging

#### 1992

• American Petroleum Institute, reviewed of script for instructional video on UST removal

### 1991:

- Louisiana DEQ, wrote study guides and certification examinations for UST installers and removers
- EPA Region I, developed inspection checklists for use during UST installation, removal and compliance inspection

## SEMINAR AND PRESENTATION EXPERIENCE (Marcel Moreau Associates)

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#### 2008

Oregon Department of Environmental Quality, provided seminar on various tank leak detection and closure issues for Oregon tank workers (with Ben Thomas Associates).

USEPA All States Conference, presented a workshop on graphical analysis of inventory control records and a presentation on the role of Petroleum Equipment Institute recommended practices in the operation and maintenance of underground storage systems.

• Tank Management Services, presented two one-day storage system owner operator training courses

in Kansas (with Ben Thomas and Steven Purpora).

- Maine Department of Environmental Protection, gave a presentation on issues associated with ethanol fuels.
- Tank Management Services, presented two one-day storage system owner operator training courses
- Nebraska Fire Marshal's Office, presented a four-day course on underground storage systems for inspectors.
- Arizona Department of Environmental Quality, presented a two day course on storage system components, installation, leak detection, safety, line tightness testing, internal lining inspection, and ethanol issues for Fire Marshal and State DEQ inspectors.
- Iowa Department of Natural Resources, presented a two day course to prepare Iowa tank installers to take the Iowa tank installer certification exam; also presented a one-day course to meet the continuing education requirements for Iowa tank workers.

  Seneca Petroleum, Des Moines, Iowa, conducted a one-day class to meet the continuing education
- requirements for Iowa tank workers.
- West Virginia Department of Environmental Protection, presented a 3.5 day course for West Virginia tank inspectors on leak detection, corrosion protection, and regulatory inspection.
- Maine Oil Dealers Association, gave a presentation to tank installers on leak detection issues at truck stops and high throughput vehicle fueling facilities.

### 2007

- Oregon Department of Environmental Quality, provided seminar on various tank leak detection and closure issues for Oregon tank workers (with Ben Thomas Associates).
- USEPA All States Conference, presented a workshop on graphical analysis of inventory control
- Maine Department of Environmental Protection, gave a presentation on compliance inspection of below-grade piping connected to aboveground storage tanks.

Maine Oil Dealers Association, gave a presentation to tank installers on factors to consider when

selecting overfill prevention equipment.

Maine Department of Environmental Protection and Maine Oil Dealers Association, gave a presentation to tank truck drivers on overfill prevention equipment and tank filling procedures for underground and aboveground tanks.

National Institute of Storage Tank Management, gave a presentation on graphical analysis of inventory control records

Kentucky Department of Environmental Quality, assisted in presenting a five-day underground storage system inspector training course (with Ben Thomas and Steven Purpora).

Arizona Department of Environmental Quality, underground storage system installation, removal, leak detection, overfill prevention and corrosion protection for Fire Marshal and State DEQ inspectors.

#### 2006

- Maine DEP, gave presentation on troubleshooting cathodic protection systems and analysis of inventory control records as part of Maine tank installer recertification seminar.
- National Ground Water Association, gave presentation on obstacles to effective leak detection and analysis of inventory records.

Region 5, USEPA, 1.5 day training for UST inspectors in Illinois.

Florida Department of Environmental Protection, Storage System Annual Inspector Conference, introduction to leak detection and cathodic protection.

Nebraska Fire Marshal's Office, 2-day training for UST inspectors.

Arizona Department of Environmental Quality, underground storage system installation, removal,

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leak detection, overfill prevention and corrosion protection for Fire Marshal and State DEO inspectors.

2005:

• USEPA All States Conference, participant in session discussing UST owner operator versus UST inspector views of the inspection process; presented draft findings of CA ATG study.

• Inter Tribal Council of Arizona, 3-day certification course for underground tank compliance

inspectors in Reno, Nevada.

Inter Tribal Council of Arizona, 3-day certification course for underground tank compliance inspectors in Niagara Falls, New York.

Inter Tribal Council of Arizona, 3-day certification course for underground tank compliance

inspectors in Green Bay, Wisconsin.

- Maine DEP, gave presentation on overfill prevention issues to NEIWPCC meeting of New England UST regulatory personnel.
  National Ground Water Association, gave presentation on obstacles to effective leak detection.
- Region 5, USEPA, 1.5 day training for UST inspectors in Wisconsin and Minnesota.
- Region 5, USEPA, 1.5 day training for UST inspectors in Indiana and Michigan. • National Institute of Storage Tank Management, presentation on overfill prevention.

### 2004:

• Inter Tribal Council of Arizona, certification course for underground tank compliance inspectors.

• Florida Department of Environmental Protection, Storage System Annual Inspector Conference,

introduction to leak detection and cathodic protection.

National Institute of Storage Tank Management, presentation on graphical analysis of inventory control records.

#### 2003:

USEPA All States Conference, participant in session discussing overfill prevention and investigating releases.

UST regulatory officials in Oxnard, CA, introduction to vapor recovery, MTBE and UST leak

detection.

Inter Tribal Council of Arizona, certification course for underground tank compliance inspectors.

Florida Department of Environmental Protection, Storage System Annual Inspector Conference, introduction to leak detection and cathodic protection.

Arizona Department of Environmental Quality, review of past and present UST codes and standards

for Fire Marshal and State DEQ inspectors.

Maine Department of Environmental Protection, introduction to underground and aboveground storage system technology, leak detection and corrosion protection for State DEP inspectors.

### 2002:

USEPA All States Conference, participant in session discussing line leak detectors.

Inter Tribal Council of Arizona, certification course for underground tank compliance inspectors.

Florida Department of Environmental Protection, Storage System Annual Inspector Conference, introduction to leak detection, how to look for leaks.

Arizona Department of Environmental Quality, underground storage system installation, removal, leak detection, overfill prevention and corrosion protection for Fire Marshal and State DEQ inspectors.

#### 2001:

Alaska Department of Environmental Conservation, UST operation course for owners and operators of UST systems (5 sessions).

Iowa Department of Natural Resources, UST operation course for owners and operators of UST

systems (6 sessions).

Inter Tribal Council of Arizona, certification course for underground tank installation inspectors. Florida Department of Environmental Protection, Storage System Annual Inspector Conference, line leak detectors, introduction to leak detection

Arizona Department of Environmental Quality, underground storage system installation, removal, leak detection, overfill prevention and corrosion protection for Fire Marshal and State DEQ

inspectors.

#### 2000:

• Maine Oil Dealers Association, presented sessions on cathodic protection testing and aboveground tank fittings at a training seminar for tank installers.

USEPA All States Conference, participant in sessions concerning secondary containment and SIR.
 Inter Tribal Council of Arizona, certification course for underground tank installation inspectors.

 New England Interstate Water Pollution Control Commission, basic UST inspection course for inspectors from New England states.

New Jersey Department of Environmental Protection, UST inspection course for New Jersey inspectors.

Mealey Publications, invited speaker at MTBE conference (twice).

- Florida Department of Environmental Protection, Storage System Annual Inspector Conference, statistical inventory reconciliation, line leak detectors, introduction to leak detection.
- Pennsylvania Department of Environmental Protection, UST inspection course for Pennsylvania UST inspectors.
- Iowa Department of Natural Resources, cathodic protection testing of underground storage systems for UST inspectors.

 New England Interstate Water Pollution Control Commission, advanced UST inspection course for inspectors from New England states.

West Virginia Department of Environmental Protection, UST cathodic protection tester certification course.

#### 1999:

• Region 2 EPA, UST leak detection and upgrading compliance for health inspectors in Hunterdon County, New Jersey (three day seminar).

USEPA All States Conference, participant in sessions concerning overfill protection, leak detection evaluation and post 1998 deadline outreach needs and messages.

Nebraska State Fire Marshal, seminar for UST inspectors focusing on line leak detectors, overfill

prevention and evaluation of impressed current cathodic protection systems.

Region 4 EPA, cathodic protection testing of underground storage systems for UST inspectors

(three day seminar).

Florida Department of Environmental Protection, Storage System Annual Inspector Conference,

statistical inventory reconciliation, line leak detectors, introduction to leak detection.

EPA Office of Enforcement and Compliance Assurance (OECA), UST operations compliance for

OECA inspectors (three day seminar).

Region 4 EPA, cathodic protection tester certification course in Montgomery, AL (3 day course).

• Region 3 EPA, cathodic protection tester course in Morgantown, WV (3 day course).

• Region 3 EPA, cathodic protection tester course in Richmond, VA (3 day course).

• Region 7, EPA, UST inspector course for Iowa Department of Natural Resources (1.5 day course)

Region 9, EPA, UST inspector certification course for Native American inspectors in Arizona (6 day course)

 Region 7, EPA, UST inspector course for Nebraska Fire Marshal's Flammable Liquid Storage Division (1.5 day course)

• Region 7, EPA, UST inspector course for Kansas Department of Health and Environment (1.5 day course)

• Region 7, EPA, UST inspector course for Missouri Department of Natural Resources (1.5 day course)

 Red Lake band of Chippewa Indians, Department of Natural Resources, UST operation course for owners and operators of UST systems on tribal lands.

### 1998:

• Hawaii Department of Health, leak detection compliance seminars for inspectors.

• Alabama Department of Environmental Management, cathodic protection tester certification course for regulatory personnel.

Maine Oil Dealers Association, moderator for training seminar for tank installers

Georgia Tank Equipment Contractor's Association, presentation to the membership concerning the future of the industry after 1998.

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California Water Resources Control Board UST conference, criteria for cathodic protection and how MTBE might be escaping from storage systems.

EPA Region 5, (Chicago) leak detection, and upgrading requirements for UST inspectors

Florida Department of Environmental Protection, Storage System Annual Inspector Conference, special topics in leak detection.

North Carolina, corrosion, cathodic protection and cathodic protection testing (3 day seminar).

Virginia, leak detection and 1998 upgrading compliance seminars for UST owners & operators (3

West Virginia UST installer, tester and remover re-certification workshops (2 one-day workshops).

Region 10 EPA, cathodic protection tester certification course for regulatory personnel.

Arizona Department of Environmental Quality, underground storage system installation, removal, leak detection and corrosion protection for Fire Marshal and State DEO inspectors.

Maine Department of Environmental Protection, leak detection and corrosion protection compliance for UST owners and operators (3 half-day seminars)

Maine Oil Dealers Association, discussion of overfill prevention for UST installers.

### 1997:

Alabama Department of Environmental Management, cathodic protection tester certification course for regulatory personnel Bolling Air Force Base, storage system leak detection and compliance requirements for base

personnel

Pace Oil Equipment Company, leak detection and upgrading requirements for UST owners and

Maine Oil Dealers Association, moderator for training seminar for tank installers

Virginia Department of Environmental Quality, leak detection and upgrading requirements for underground storage systems (8 one-day sessions in four locations)

USEPA All States Conference, participant in sessions concerning overfill protection, leak detection

and contractor certification

Maine Department of Environmental Protection, overview of automatic tank gauge technology for state UST inspectors Vermont Department of Environmental Conservation, leak detection, upgrading and vapor recovery

requirements for UST owners and operators

Certification course for UST cathodic protection system testers presented in South Carolina

- Florida Department of Environmental Protection, Storage System Annual Inspector Conference, leak detection and corrosion protection
- Virginia Department of Environmental Quality, leak detection, corrosion protection and upgrading requirements for UST inspectors
- EPA Region 7, corrosion and cathodic protection training for UST inspectors in Missouri and
- Arizona Department of Environmental Quality, underground storage system installation, removal, leak detection and upgrading for Fire Marshal and State DEQ inspectors. EPA Region 9, UST leak detection and upgrading requirements for tanks on Indian lands, Palm
- Springs and Ukiah, California and Reno, Nevada.
- EPA Region 4, corrosion, cathodic protection and cathodic protection testing (3 day seminars) in Georgia and Kentucky.
- EPA Region 5, corrosion, cathodic protection and cathodic protection testing, (2 day seminar) in Michigan.
- EPA Region 9, UST leak detection and upgrading requirements for tanks on Indian lands, Window Rock, Tuba City and Phoenix, Arizona.
- EPA Region 9, presentation on leak detection and upgrading at Indian Lands Tribal Conference in San Francisco, California.
- EPA Region 2, corrosion, cathodic protection and cathodic protection testing, (2 day seminar) in
- Nebraska State Fire Marshal, UST leak detection and upgrading requirements for underground storage systems (half-day sessions in five locations)

- Petroleum Equipment Institute, District 4 meeting, storage system upgrading and safety during tank removal
- USEPA All States Conference, cathodic protection monitoring and interpretation of regulations

• John W. Kennedy Company, storage system upgrading requirements in New England

- California Water Resources Control Board UST conference, facility compliance inspection procedures and protocol
- Petroleum Equipment Institute, District 6 meeting, storage system upgrading and safety during tank
- Petroleum Equipment Institute, District 7 meeting, storage system upgrading and safety during tank removal
- Florida DEP, Storage System Annual Inspector Conference, leak detection and corrosion protection
- Petroleum Equipment Institute, District 3 meeting, storage system upgrading and safety during tank removal
- Clark County Health Department, Las Vegas, Nevada, corrosion and upgrading requirements for storage system installers and owners (2 sessions)

Arizona DEQ, underground storage system inspection and leak detection

- Emco Electronics, Cary, North Carolina, regulatory requirements for leak detection and the 1998 deadline
- Region 1 EPA, Portland, Maine, corrosion and cathodic protection monitoring for UST inspectors
- New Jersey DEP, Leak detection and upgrading requirements for underground storage systems (5 one-day sessions in three locations)
- New York DEC, Saratoga Springs, New York, federal UST requirements for UST inspectors
- Petroleum Equipment Institute, Convex '96, Orlando, Florida, untangling the 1998 UST deadline
- Colorado oil inspection staff, Denver, Colorado, corrosion and cathodic protection monitoring for UST inspectors
- Region 8 EPA, Salt Lake City, Utah, corrosion and cathodic protection monitoring for UST inspectors
- Region 4 EPA, Spartanburg, South Carolina, corrosion and cathodic protection monitoring for UST inspectors
- Region 9 EPA, leak detection, upgrading and corrective action requirements for UST owners and operators (5 one-day sessions in Arizona and Nevada)

#### 1995:

- Karr & Associates, UST/AST Conferences in Ottawa, Toronto, Calgary, Vancouver, Canada, technology and leak detection for USTs
- USEPA All States Conference, facility inspection protocol
- California Water Resources Control Board UST conference, statistical inventory reconciliation for leak detection
- Pennsylvania DEP, train the trainer seminar for state UST inspectors
- Pennsylvania DEP, leak detection seminar for UST owner/operators (8 seminars, six locations)
- Florida DEP, Annual Inspector Conference, statistical inventory control and automatic tank gauging for leak detection
- West Virginia DEP, tank tightness testing seminar for state inspectors
- Petroleum Equipment Institute, District 4 meeting, understanding Florida's underground storage system regulations
- New Mexico Environment Department, field inspection training
- EPA Region 6, corrosion/cathodic protection training for UST inspectors
- Colorado-Wyoming Petroleum Marketers, UST upgrading requirements
- Pennsylvania DEP, closure of UST systems seminar for owner/operators (6 seminars, six locations)
- New Mexico Environment Department, seminar for UST owner/operators on statistical inventory reconciliation and automatic tank gauging

### 1994:

- Nevada DEP, leak detection and inspection training for state and county personnel
- Tennessee DEC, leak detection compliance for UST owner/operators
- Hawaii Department of Health, leak detection compliance seminars for inspectors and service providers
- New Hampshire DES, seminar on spill and overfill prevention for installers

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Hazmat South Conference, state-of-the-art of leak detection

EPA Region 8, corrosion and cathodic protection training for state personnel (1-day sessions in Utah, Colorado, Wyoming and South Dakota)

California Water Resources Control Board UST conference, tank tightness testing

Nevada DEP, leak detection compliance for UST service providers

EPA Region I, leak detection training for state inspectors

Florida DEP Annual Inspector Conference, leak detection compliance inspection Pennsylvania DEP, leak detection compliance for UST owner/operators (6 locations) EPA Region X, UST inspector training (2-day sessions in Alaska, Idaho, Washington)

New Mexico Environment Department, leak detection compliance for UST owner/operators

Omega Environmental, overview of UST leak detection

### 1993:

- South Carolina DHEC, UST inspector seminar West Virginia DEP, UST inspector seminar
- USEPA All States Conference, facility inspection protocol

Florida DEP, leak detection compliance inspection

Montana DHES, corrosion and cathodic protection for UST inspectors

Pennsylvania DEP, private sector UST inspector training (three 4-day sessions)
West Virginia DEP, UST owner/operator leak detection training (five 1-day sessions)

Tank Installers of Pennsylvania, UST leak detection requirements

### 1992:

- EPA Region III, UST inspector training for Delaware, Pennsylvania and Virginia (three 3-day sessions)
- Texas Water Commission, UST inspector training (two 2-day sessions)

West Virginia DEP, UST inspector seminar

California Water Resources Control Board, UST inspector training (three 2-day sessions)

EPA Region IV, UST inspector training for North Carolina, Alabama and Kentucky (three 1-day

New Mexico Environment Department, UST inspector training

Marcel Moreau Associates, leak detection and corrosion protection for Louisiana installers

Louisiana DEQ, UST inspector training (two 2-day sessions)

### 1991:

Arizona DEQ, UST inspector training

### **PUBLICATIONS**

"MTBE as a Ground Water Contaminant," (with Peter Garrett) Proceedings of the 1986 National Water Well Association/American Petroleum Institute Conference on Petroleum Hydrocarbons in Ground Water - Prevention, Detection and Remediation.

"An Emphasis on LUP's - The Weak Spots in Piping," L.U.S.T.line, Bulletin 7, December, 1987

"Some European Perspectives on Prevention of Leaks from Underground Petroleum Storage Systems,"

"Some European Perspectives on Prevention of Leaks from Underground Petroleum Storage Systems," Ground Water Monitoring Review, Winter 1987
"Five Key Underground Piping Problems that Need to be Addressed," Tank Talk, March, 1988
"Stalking the Elusive .85 Volts - Monitoring Cathodic Protection," L.U.S.T.line, Bulletin 8, May, 1988
"Pumping Product - The Push Ups vs Pull Ups of Product Delivery Systems - Implications for Environmental Health," L.U.S.T.line, Bulletin 10, February, 1989
"The Leak Detection Dilemma," L.U.S.T.line, Bulletin 12, February, 1990
"The Problems with Piping - An Update," Tank Talk, Volume 5, Number 2, February, 1990
"Tightness Testing - Let's Begin With Nomenclature," L.U.S.T.line, Bulletin 13, August, 1990
"Inventory Control...The Untold Story," L.U.S.T.line, Bulletin 14, March, 1991
"Everything You Wanted to Know About Piping Leak Detection." Tank Talk, Volume 6, Number 3.

"Everything You Wanted to Know About Piping Leak Detection," Tank Talk, Volume 6, Number 3, March 1991

"Rulers Lie...And Other Little Known Facts About Statistics in Leak Detection," L.U.S.T.line, Bulletin 15, September, 1991

"UST System Crisis Checklist," Tank Talk, Volume 7, Number 1, January/February 1992

"What Tightness Test Would You Use?" L.U.S.T.line, Bulletin 16, March, 1992 "The A to ZZZs of Pressurized Piping Leak Detection," L.U.S.T.line, Bulletin 17, October, 1992

"Overfill Prevention: Are We There Yet?" L.U.S.T.line, Bulletin 18, April, 1993

"How Empty Must A Leaking Tank Be For A Leaking Tank To Test Tight?" L.U.S.T.line, Bulletin 19, January, 1994

"Underground Storage System Leak Detection: Theory, Practice and Prognostications," Proceedings of the 1994 Hazmat South Conference, Orlando, Florida

"To Dream the Possible Dream: UST Compliance," L.U.S.T.line, Bulletin 20, June, 1994

"What Every Tank Owner Should Know About Overfill Prevention," L.U.S.T.line, Bulletin 21, December, 1994

"What Every Tank Owner Should Know About Overfill Prevention," Tank Talk, Volume 9, Number 5, November/December 1994

"Survey of Flexible Piping Systems," Apogee Research, Inc, Washington, D.C., March, 1995

"What Every Tank Owner Should Know About Automatic Tank Gauges," Underground Storage Tank Guide, May 1995

"Laying Down the Law on SIR," L.U.S.T.line, Bulletin 22, June, 1995

"Spills and Overfills: Protect Yourself," Convenience Store News Mexico, December 11, 1995
"Upgrade Now...or Repent Later," L.U.S.T.line, Bulletin 23, January, 1996
"Planning for the Unthinkable: Emergency Preparedness for Motor Fuel Dispensing Facilities," Convenience Store News Mexico, March, 1996

"The ABCs of ATGs," L.U.S.T.line, Bulletin 24, July, 1996
"Testing Cathodic Protection Systems," L.U.S.T.line, Bulletin 25, January, 1997
"Is Leak Detection Working?" L.U.S.T.line, Bulletin 26, July 1997
"Piping's Progress," L.U.S.T.line, Bulletin 27, November, 1997
"What About Tank Lining," L.U.S.T.line, Bulletin 28, February, 1998
"Of Blabbermouths and Tattletales - The Life and Times of Automatic Line Leak Detectors,"

L.U.S.T.line, Bulletin 20, June, 1998 L.U.S.T.line, Bulletin 29, June, 1998

"The Holes in Our UST Systems," L.U.S.T.line, Bulletin 30, September, 1998 "Hmmm...If Only Overfill Prevention Worked!" L.U.S.T.line, Bulletin 31, March, 1999

"Combatting CP-Test Heartburn," L.U.S.T.line, Bulletin 32, June 1999

"Enough with the Walking Softly, It's Time to Get Out the Stick," L.U.S.T.line, Bulletin 33, October

"Tank Management 101 - You Too Can Be a 'Professional' UST System Owner/Operator," L.U.S.T.line, Bulletin 34, February 2000
"The Problem with Sumps," L.U.S.T.line, Bulletin 35, June 2000

"The Quest for the Perfectly Reliable LLD, or Should Electronic Line Leak Detectors Have an Annual Test of Operation?" L.U.S.T.line, Bulletin 36, November 2000 "Plugging the Holes in Our UST Systems," L.U.S.T.line, Bulletin 37, March 2001

"Live and Learn," L.U.S.T.line, Bulletin 38, June 2001, (with Patricia Ellis and Ellen Frye) "Continuous or Isolated? This Is the Question?" L.U.S.T.line, Bulletin 39, November 2001

'Of Square Pegs and Round Tanks, or.. What If Tank Operators Knew How to Operate Tanks?" L.U.S.T.line, Bulletin 40, March 2002.

"Looking for Leaks in All the Wrong Places," L.U.S.T.line Bulletin #41, June 2002. "The Tortoise and the Hare Revisited," L.U.S.T.line Bulletin #43, March 2003.

"The Tortoise and the Hare Revisited," L.U.S.T.line Bulletin #43, March 2003.

"Baffled by a Leak? Check the Inventory Records," L.U.S.T.line Bulletin #44, July 2003.

"Will the Real Quantitative SIR Method Please Stand Up?" L.U.S.T.line Bulletin #45, October 2003

"The Limits of Leak Detection," L.U.S.T.line Bulletin #47, June 2004 (with Ken Wilcox)

"Maine – The Way Sumps Should Be," L.U.S.T.line Bulletin #49, March 2005

"I've Looked at Tanks from Both Sides Now," L.U.S.T.line Bulletin #50, August 2005

"Did the Shear Valves Shear?" L.U.S.T.line Bulletin #51, December 2005

"Operator Training: Boon or Bust?" L.U.S.T.line Bulletin #52, May 2006

"Beware the Unintended Consequences of Manifolding," L.U.S.T.line Bulletin #53, September 2006

"The Trouble with Truck Stops," L.U.S.T.line Bulletin #56, August 2007

"The Gospel According to Phil," L.U.S.T.line Bulletin #57, November 2007

"Making Sense of Sensors" L.U.S.T.line Bulletin #58, September 2008 "Making Sense of Sensors," L.U.S.T.line Bulletin #58, September 2008

### **VIDEOS**

Technical consultant for the following USEPA videos:

• "Doing It Right" (tank installation)

• "Doing It Right II" (storage system installation)

• "Keeping It Clean" (spill free fuel deliveries)

• "Straight Talk on Tanks" (leak detection)

• "Searching for the Honest Tank" (storage system inspection)

• "Petroleum Leaks Underground" (behavior of petroleum in subsurface)

### Produced the following videos:

• "Oil and Water Don't Mix - Or do They?" for the Maine Department of Environmental Protection

"Gas Tanks and Gargoyles - A Look at European Petroleum Storage Technology" for the USEPA

### **LEGAL WORK**

## Provided depositions in the following cases:

NEUMAYER EQUIPMENT COMPANY, INC. V. SYNERGY OIL, LLC, d/b/a SYNERGY OIL, d/b/a/ SYNDERGY PETROLEUM, and ADAM R. OKILEE, in the Circuit Court of the City of St. Louis, Missouri, Case No. 062-00211, Division No. 7. Retained by Mr. David Dare on behalf of the plaintiff.

TONNESON, ET AL. V. SUNOCO, INC., ET AL., in the United States District Court, Southern District of New York, MDL No. 1358, Master File C.A. No. 1:00-1898 (SAS), 03 Civ. 8248, retained by Mr. Duane Miller on behalf of the plaintiffs.

IN RE: METHYL TERTIARY BUTYL ETHER (MTBE) PRODUCTS LIABILITY LITIGATION, MDL 1358, in the United States District Court Southern District of New York, retained by the firm of Baron & Budd on behalf of the plaintiffs.

THIRSTY'S (ELM REST), LTD., V. BLARNEY CASTLE OIL COMPANY, AMERICAN ZURICH INSURANCE COMPANY AND GENERAL AGENCY COMPANY, in the State of Michigan 28<sup>th</sup> Circuit Court for the County of Wexford, Case No. 04-18377-CZ, retained by Mr. Jason Miller on behalf of the plaintiff.

D.J. NELSON TRUST dba FRUITRIDGE VISTA WATER COMPANY V. ATLANTIC RITCHFIELD COMPANY, et al., in the Superior Court of the State of California, in and for the county of Sacramento, Case No. AS00535, retained by Mr. Victor Sher on behalf of the plaintiff.

SUSAN B. FRALICK BALL, et al., V. BAYARD PUMP & TANK CO., INC., et al., V. CONTAINMENT TECHNOLOGIES CORP., et al., in the Court of Common Pleas, Montgomery County, Pennsylvania, NO. 99-06438. Retained by Mr. Stephen W. Miller on behalf of the defendant Bayard Pump & Tank.

MONTANA PETROLEUM TANK RELEASE COMPENSATION BOARD V. CRUMLEY & WALLIS SERVICES, INC., ET AL., in the Montana First Judicial District Court, Lewis and Clark County, Cause No. BDV-2001-107. Retained by Mr. Allan Payne on behalf of the plaintiff.

BOBBIE ADAMS, ET AL. V. BP PRODUCTS OF NORTH AMERICA, INC., ET AL., in the Carteret County, North Carolina, General Court of Justice, Superior Court Division, Case No. 03 CVS 912. Retained by Mr. James Hopf on behalf of the plaintiffs.

REDEVELOPMENT AGENCY OF THE CITY OF STOCKTON V. UNION OIL COMPANY, ET AL., in the San Mateo, California Superior Court, Case No. 410753. Retained by Mr. James Mathison on behalf of the plaintiff.

BERNARD SALVADOR V. IRVING OIL CORPORATION, in the Superior Court of Belknap County, New Hampshire, Docket No. 02-C-0137. Retained by Mr. Michael Dunn on behalf of the plaintiff.

WALKER PETROLEUM, INC. ET AL. V. LAURA C. WINGFIELD, ET AL., in the Circuit Court of Jackson County, Mississippi, No. CI-2000-0043(3). Retained by Mr. David Frazier on behalf of the plaintiff.

MARY LOUISE FAIREY, ET AL. V. THE EXXON CORPORATION, ET AL., in the Court of Common Pleas, County of Orangeburg, State of South Carolina. Retained by Mr. Marion Fairey on behalf of the plaintiffs.

KVAERNER ARONSON, INC. (plaintiff) V. MAMMOTH MOUNTAIN SKI AREA (defendant), MAMMOTH MOUNTAIN SKI AREA (cross-complainant) V. KVAERNER ARONSON, INC., EMCO WHEATON RETAIL CORPORATION, ET AL. (cross defendants), in the Superior Court for the County of Mono in the State of California, Case Number 12928, retained by Mr. Jeffrey Nolan on behalf of Mammoth Mountain Ski Area.

STATE OF VERMONT V. WESCO, INC. AND ODESSA CORPORATION, in the Vermont Superior Court, Docket Nos. 3105-06-01 and 3131-6-01. Retained by Jeanne Elias, Assistant Attorney General, State of Vermont, on behalf of the plaintiffs.

UNITED TECHNOLOGIES CORPORATION, ET AL. V. AMERICAN HOME ASSURANCE COMPANY, Civil Action No. 292-CV-00267 (JBA), in the United States District Court for the District of Connecticut. Retained by Mr. Stephen Fennell on behalf of the defendants. Subject of the case was whether storage systems were appropriately managed.

UNITED STATES OF AMERICA UNITED STATES POSTAL SERVICE V. MYSTIC BULK CARRIER INC., XERXES CORPORATION, METRO-TANK, INC. AND UNIVERSAL VALVE COMPANY, INC, Civil Action No. 98-4336 in the United States District Court, District of New Jersey. Retained by Ms. Laura Smith on behalf of the plaintiffs. Subject of the case is whether an overfill prevention device was properly manufactured and installed and whether appropriate deliver procedures were followed.

CITIZENS FOR A BETTER ENVIRONMENT V. UNOCAL CORPORATION, ET AL., San Francisco Superior Court Case No. SCV 997013. Retained by Mr. Scott Summy on behalf of the plaintiffs. Subject of the case is oil industry knowledge concerning the effects of releases of MTBE to the environment.

SOUTH TAHOE PUBLIC UTILITY DISTRICT V. ATLANTIC RITCHFIELD CO., ET AL., San Francisco Superior Court Case No. 999128. Retained by Mr. Duane Miller on behalf of the plaintiffs. Subject of the case is potential sources of MTBE releases from underground storage systems.

BUDDY LYNN, ET AL. V. AMOCO OIL CO., ET AL., C.V. #96-T-940-N in the District Court for the Middle District of Alabama, Northern Division. Retained by Mr. Dennis Reich on behalf of the plaintiffs. Subject of the case is whether underground storage systems have been properly managed.

CHRISTOPHER SEWARD V. SHOP-A-SNACK FOOD MART, INC., ET AL., in the Circuit Court of Jefferson County, Alabama, CV98-4049. Retained by Ms. Glenda Cochran on behalf of the plaintiff. Subject of the case was responsibility for an accident in which the plaintiff was severely burned.

RICHARD FARRELL V. MASSACHUSETTS ENGINEERING COMPANY, INC., et al., in the Superior Court of Massachusetts, C.A. No. 95-617. Retained by Mr. H. Hamilton Hackney, III on behalf of the defendant. Subject of the case was whether an underground tank was properly managed.

TOWN OF BILLERICA SCHOOL COMMITTEE V. COASTAL REFINING & MARKETING, INC. in the Superior Court of Massachusetts, C.A. No. 95-7121. Retained by Ms. Theresa Kelly Banash on behalf of the defendant. Subject of the case was whether proper procedures were used to fill an

underground tank.

OCEAN COUNTY VOCATIONAL-TECHNICAL SCHOOL V. FUEL TANK MAINTENANCE SERVICE, INC., WHITEMARSH CORPORATION AND KELLY DONAHUE CONTRACTING, INC., in the Superior Court of New Jersey, Law Division - Ocean County, Docket No. OCN-L-2938-95. Retained by Mr. Peter Loffredo on behalf of the plaintiff. Subject of the case was whether two fuel storage systems were properly installed.

WEST VIRGINIA UNDERGROUND STORAGE TANK INSURANCE FUND and R. M. ROACH & SONS, INC. V. DARWIN D. CUPP, SAMUEL K. SPIGLER CO., INC., and CAMPO-MILLER, In the circuit court for Berkeley County West Virginia. Retained by Mr. Richard Rowe on behalf of the plaintiff. Subject of the case was whether a leak detection device was properly installed and operated.

INTERSTATE FACILITIES OF HILLVIEW, INC., d/b/a PRO STOP LOUISVILLE SOUTH AND INTERSTATE FACILITIES, INC., AND I-65, INC. V. DEWCO, INC., ET AL., In Jefferson Circuit Court (Kentucky), Division Six (No. 92-CI-05229). Retained by Mr. George Carter on behalf of the defendants. Subject of the case was whether an underground storage system was properly installed.

STATE OF MAINE V. CHEVRON USA, Cause No. CV-95-79, In the Superior Court, Kennebec County, Maine. Retained by Ms. Phyllis Gardiner on behalf of the plaintiff. Subject was the mode of failure of an underground storage tank.

IN RE: TUTU WELLS CONTAMINATION LITIGATION, 1989-107, In the United States District Court, Division of St. Thomas and St. John. Retained by Mr. John Dema on behalf of the plaintiff. Subject was the underground storage system management practices of oil companies in the Virgin Islands.

USA V. OWNBEY ENTERPRISES, United States District Court, Northern District of Georgia, Rame Division. Retained by Mr. Kenneth Riemer on behalf of the plaintiff. Subject was whether the leak status of a tank had been conclusively determined.

ADVANTAGE BUSINESS SYSTEMS (ABS) V. XTRA-MART ET AL, United States District Court, Southern District of Maine. Retained by a lawyer for the plaintiff. Subject was whether an underground storage system had leaked before or after a property transaction.

### Provided trial testimony in the following cases:

DUNNE ET AL. V. SHELL OIL COMPANY, Index #96-13856T, Supreme Court of the State of New York, County of Westchester.

SOUTH TAHOE PUBLIC UTILITY DISTRICT V. ATLANTIC RITCHFIELD CO., ET AL., San Francisco Superior Court Case No. 999128

WALKER PETROLEUM, INC. ET AL. V. LAURA C. WINGFIELD, ET AL., in the Circuit Court of Jackson County, Mississippi, No. CI-2000-0043(3). Retained by Mr. David Frazier on behalf of the plaintiff.

NEUMAYER EQUIPMENT COMPANY, INC. V. SYNERGY OIL, LLC, d/b/a SYNERGY OIL, d/b/a/ SYNDERGY PETROLEUM, and ADAM R. OKILEE, in the Circuit Court of the City of St. Louis, Missouri, Case No. 062-00211, Division No. 7. Retained by Mr. David Dare on behalf of the plaintiff.